

**Amendments to the Drawings**

The attached replacement sheet of a drawing includes changes to Fig. 1, where block 50, representing a heat boiler, has been added. The replacement sheet is intended to replace Fig. 1 currently before the Examiner.

The attached new sheet of a drawing includes new Fig. 2 showing exemplary flow chart of the catalytic combustion gas turbine system according to the present disclosure.

Attachment: Replacement Sheet  
New Sheet

**Remarks**

Claims 1-32 are currently pending in the Application and Claims 34-35 are newly presented herein, Claims 7, 9 and 32-33 have been canceled without prejudice.

**Summary of claim amendments**

This response amends Claims 1 to recite features of Claim 7, amends Claim 17 to be a dependent claims, amends Claim 19 to clarify the language of the claims, amends Claim 28 to recite features of Claim 32, and Cancels Claims 7, 9 and 32 without prejudice.

**New Claims**

This response adds new Claims 34-35 to more completely claim the invention. Support for the new Claims 34-35 can be found, for example, in the original Claims 1 and 21-22.

The total number of pending claims in the present application is 31, 3 of which are independent. Given that claims fees for total 32 claims (3 of which were independent) have already been paid by Applicants, Applicants submit that no claims fees are due. However, should additional claims fees be due, the Commissioner is authorized to charge them to deposit account no. 12-0415.

**Drawing objections**

The Examiner objects to the drawings for allegedly not showing the features of Claims 14 and 16. Applicants respectfully submit that Figure 1 has been amended to show heat recovery boiler recited in Claim 14 and a new Figure 2 has been added to show features of Claim 16. Specification has been amended accordingly as shown above. Support for the amendment can be, for example, found in originally filed Claims 14 and 16 and the specification.

**35 U.S.C. §102(b) rejection**

Claims 1-4, 11, 17-19, 23, 28-29 and 32 stand rejected under 35 U.S.C. §102(b) as being anticipated by Prabhu (U.S. Patent No. 6,393,821). Applicants respectfully disagree.

Applicants submit that Prabhu does not teach each and every element as set forth in the rejected claims. In particular:

**Claim 1**

A. Applicants submit that Prabhu does not disclose, suggest or teach, *inter alia*, the following features recited by amended Claim 1 of the present application:

“the catalyst comprises a **honeycomb-type** monolith catalyst” (emphasis added)

Although the Examiner concedes that this feature is not taught by Prabhu, the Examiner asserts that this feature is disclosed by Rostrup-Nielsen (p. 7, ll. 7-10 of the Office Action). Applicants respectfully disagree with the Examiner’s assertion.

Applicants submit that a word search for “honeycomb” revealed no matches in the Rostrup-Nielsen reference. Applicants submit that neither Prabhu nor Rostrup-Nielsen teach, disclose or suggest “the catalyst comprises a honeycomb-type monolith catalyst” as recited in amended Claim 1. Hence Claim 1 is patentable over Prabhu and Rostrup-Nielsen and should be allowed by the Examiner. Claims 2-4, 11, 17-19 and 23, at least based on their dependency on Claim 1, are also patentable over Prabhu and Rostrup-Nielsen.

If the Examiner does not agree, the Examiner is encouraged to comply with 37 C.F.R. §1.104(c)(2) by designating “as nearly as practicable” where Prabhu or Rostrup-Nielsen disclose that “the catalyst comprises a honeycomb-type monolith catalyst” as recited in amended Claim 1.

**B.** Applicants submit that Prabhu does not disclose, suggest or teach, *inter alia*, the following features recited by amended Claim 1 of the present application:

“the inlet stream of the compressor has a substantially constant and low concentration of fuel, the fuel comprises at least some **gas from an underground coal mine**” (emphasis added)

According to Prabhu, Prabhu compressor 13’s input is from landfills and from livestock (Abstract of Prabhu). Contrary from Prabhu, fuel that is used by the “compressor” recited in Claim 1 comprises “gas from an underground coal mine.”

Because Prabhu compressor 13 does not get its fuel from an underground coal mine, Claim 1 is patentable over Prabhu and should be allowed by the Examiner. Claims 2-4, 11, 17-19 and 23, at least based on their dependency on Claim 1, are also patentable over Prabhu.

#### Claim 28

**A.** Applicants submit that, at least for the reasons stated above for Claim 1, Prabhu does not teach, disclose or suggest “mixing at least two **gas streams from an underground coal mine** to produce a process gas stream with a substantially constant and low fuel concentration” (emphasis added) as recited in amended Claim 28. Hence Claim 28 is patentable over Prabhu and should be allowed by the Examiner. Claim 29, at least based on its dependency on Claim 28, is also patentable over Prabhu.

**B.** Applicants submit that Prabhu does not disclose, suggest or teach, *inter alia*, the following features recited by amended Claim 1 of the present application:

“combusting the process gas stream in the presence of a catalyst to a temperature of less than 800° C” (emphasis added)

The Examiner asserts that this feature is disclosed in Prabhu’s column 8, lines 33+ (p. 4, lines 5-7 of the Office Action). According to the Examiner, because fuel concentration of 5% methane in air will begin to ignite at 1000 degrees F at a pressure of 4 atmospheres,

Prabhu discloses “combusting the process gas stream ... to a temperature of less than 800° C” as recited in amended Claim 28. Applicants respectfully disagree.

According to Prabhu, for safety reasons Prabhu’s controller 24 monitors the temperature, pressure and time conditions so that auto-ignition will not occur until the mixture is within the combustor 18 (c. 8, ll. 43-46 of Prabhu). However, Prabhu is silent as to what happens to the mixture once it is in the combustor 18. Just because the mixture begins to combust at 1000 degrees F does not automatically disclose that the temperature inside Prabhu’s combustor 18 does not go above the 1000 degrees F. Because Prabhu is silent as to the temperature at which the mixture is actually combusting in the in Prabhu’s combustor 18, Prabhu does not teach, disclose or suggest “combusting the process gas stream in the presence of a catalyst to a temperature of less than 800° C” as recited in amended Claim 28. Hence, Claim 28 is patentable over Prabhu and should be allowed by the Examiner. Claim 29, at least based on its dependency on Claim 28, is also patentable over Prabhu

If the Examiner does not agree, the Examiner is encouraged to comply with 37 C.F.R. §1.104(c)(2) by designating “as nearly as practicable” where Prabhu disclose that the mixture in the combustor 18 combusts at “a temperature of less than 800° C” as recited in amended Claim 28.

#### Claim 32

Claim 32 has been canceled without prejudice.

#### **35 U.S.C. §103(a) rejection**

Claims 20, 23 and 26 stand rejected under 35 U.S.C. §103(a) as being obvious in view of Prabhu and further in view of Rautenbach (U.S. Patent No. 6,595,001) and/or Gabrielson (U.S. Patent No. 5,216,876). Claims 21-22 and 24-25 stand rejected under 35 U.S.C. §103(a) as being obvious in view of Prabhu, Rautenbach and/or Gabrielson and further in view of Teller (U.S. Patent No. 3,957,464) and/or Tarnacon (U.S. Patent No. 5,407,647). Claims 5-10, 12-16 and 31 stand rejected under 35 U.S.C. §103(a) as being obvious in

view of Prabhu and further in view of Lipinski (U.S. Patent No. 6,125,625) and/or Rostrup-Nielsen (U.S. Patent No. 6,109,018) and/or Bell (U.S. Patent No. 4,936,088).

Claims 5-10, 12-16, 20-23 and 24-26

Applicants submit that Claims 5-10, 12-16, 20-23 and 24-26, at least based on their dependency on Claim 1, are believed to be patentable over Prabhu, Rautenbach and Gabrielson, because there is no prima facie 35 USC 103(a) case based on Prabhu, as shown above, and because the Examiner has not shown to where Rautenbach and Gabrielson discloses, teaches or suggests the features not found in Prabhu.

Claim 31

Applicants submit that Claim 31, at least based on its dependency on Claim 28, is believed to be patentable over Prabhu, Lipinski, Rostrup-Nielsen and Bell, because there is no prima facie 35 USC 103(a) case based on Prabhu, as shown above, and because the Examiner has not shown to where Lipinski, Rostrup-Nielsen and Bell discloses, teaches or suggests the features not found in Prabhu.

Patentability of new Claim 34

New Claim 34 recites “a catalytic combustor having an inlet stream and an outlet stream and containing a catalyst, the catalyst comprising a **honeycomb-type monolith catalyst**, a turbine having an inlet stream and an outlet stream, and **at least one scrubber for removing particles**, wherein the outlet stream of the compressor is connected to the process inlet stream of the pre-heater, the process outlet stream of the pre-heater is connected to the inlet stream of the catalytic combustor, and the outlet stream of the catalytic combustor is connected to the inlet stream of the turbine, wherein during operation of the system, the inlet stream of the compressor has a substantially constant and low concentration of fuel, the fuel comprising at least some **gas from an underground coal mine**” (emphasis added). Applicants submit that at least some of these features are not disclosed by the prior art cited by the Examiner. Hence, Claim 34 is patentable and should be allowed by the Examiner. Claim 35, at least based on its dependency on Claim 34, is also patentable.

Conclusion

In view of the above, reconsideration and allowance of all the claims are respectfully solicited.

The Commissioner is authorized to charge any additional fees which may be required or credit overpayment to deposit account no. 12-0415. In particular, if this response is not timely filed, then the Commissioner is authorized to treat this response as including a petition to extend the time period pursuant to 37 CFR 1.136 (a) requesting an extension of time of the number of months necessary to make this response timely filed and the petition fee due in connection therewith may be charged to deposit account no. 12-0415.

I hereby certify that this correspondence is being deposited with the United States Post Office with sufficient postage as first class mail in an envelope addressed to Mail Stop Amendment Commissioner for Patents P.O. Box 1450, Alexandria, VA 22313-1450 on

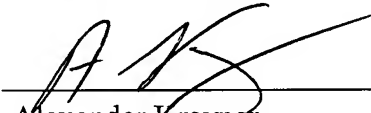
August 17, 2007  
(Date of Deposit)

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